S/051/62/013/004/007/023 E039/E491

AUTHORS:

Zelikin, Ya.M., Paracheva, G.T.

TITLE:

On the peculiarities of the zinc oxide thermo-

PERIODICAL: Optika i spektroskopiya, v.13, no.4, 1962, 554-557 TEXT: Samples of ZnO are prepared from triple vacuum distilled metallic zinc by calcining in air at 1000°C for 1 hour. The total metallic impurity is shown by spectroscopic analysis to be not more than 10-4%. Such ZnO is weakly luminescent at room temperature in the yellow and green bands. were heated for 30 minutes in pure argon at the following Samples of this ZnO temperatures: 480, 555, 630, 730, 815, 910, 980 and 1020°C. For firing temperatures up to 730°C the intensity of the luminescence progressively decreases but for temperatures of 815°C and above there is a sharp increase in intensity. the luminescence is green. Thermoluminescence curves for the samples calcined at 480 to 730°C have three maxima at -150, -130 and -110°C. The first and last peaks are green and the middle one Samples fired at 815°C have no peak at -110°C and there is a redistribution of intensity between the other two

On the peculiarities of the zinc ... \$/051/62/013/004/007/023

peaks. Firing at temperatures above 815°C produces a sharp fall in intensity of the yellow peak and a general reduction in the total light. By firing the ZnO for 30 minutes in oxygen there is a general strengthening of the yellow band and a weakening of the green band in the luminescence at room temperature. After firing at 480 to 730°C in oxygen there are only two peaks in the thermoluminescence curve (-150 and -130°C). It is suggested that situated only trapping centres of average depth, but near the different depths. There are 4 figures.

SUBMITTED: July 29, 1961

Card 2/2

ZELIKIN, Ya.M.; ZHUKOVSKIY, A.P.

Yellow luminescence of zinc oxide. Opt. 1 spektr. 11 no.3:
397-402 S '61. (Zinc oxide)

(Zinc oxide)

22159

8/048/61/025/004/008/048 B104/B201

AUTHOR:

Zelikin, Ya. M.

TITLE:

Effact of production conditions upon the luminescence of

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 4, 1961, 461-463

TEXT: The present paper has been read at the 9th Conference on Luminescence (Crystal Phosphors), Kiyev, June 20-25, 1960. Zinc oxide exhibits in the visible region a green (~ 510 m μ) and a yellow (~ 610 m μ) luminescence band. The author studied the effect of various metal additions upon the yellow band in order to clarify the part played by impurities and the nature of the luminescence centers. For bivalent cadmium and magnesium, for trivalent aluminum, gallium and indium it was possible to give evidence of a sharp rise of the yellow band. It was further found by experiments that the yellow band appeared also with pure zino oxide. The conception according to which the yellow band is related to a high-temperature modification of ZnO is regarded as probably correct by the author on the basis

Card 1/2

22159

Effect of production..

3/048/61/025/004/008/048 B104/B201

of his own results, obtained when studying the formation of the yellow band at temperatures near the assumed polymorphic conversion temperature. Crystallographic data and X-ray analysis, however, contradict this notion. Still, the possibility that this lattice modification does exist around the defects acting as luminescence centers is not excluded. It could be shown with Debye powder patterns that there exists no high-temperature modification of ZnO. In the author's opinion, the presence of oxygen while sintering is necessary for the formation of yellow luminescence centers (sintering must not be performed below 700°C). The yellow band intensification caused by metals is said to be explained by the defects formed by the latter. Data regarding the thermal de-excitation of ZnO specimens sintered at different temperatures in an oxygen flow showed that in those specimens in which the yellow band appears, a new peak of thermal deexcitation may also be observed. There are 1 figure and 13 references: 9 Soviet-bloc and 4 non-Soviet-bloc. The reference to the English-language publication reads as follows: Ref. 6: Randall, Trans. Faraday Soc., 35,

ASSOCIATION:

Card 2/2

Nauchno-issledovatel skiy fizicheskiy institut Leningradskogo gos. universiteta im. A. A. Zhdanova (Scientific Research Thatitute of Physics of Leningrad State University imeni

183100 247700 AUTHOR:

Zelikin,

S/120/62/000/002/030/047 E039/E435

37802

TITLE:

The preparation and properties of sublimated layers of the luminescent ZnO and ZnS

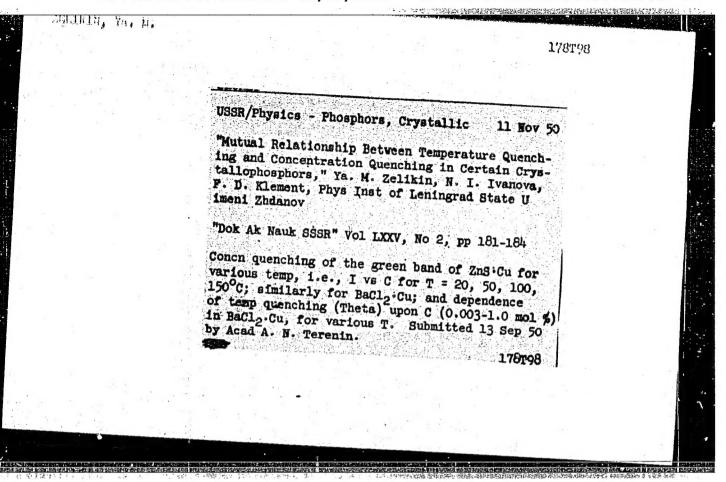
PERIODICAL: Pribory i tekhnika eksperimenta, no.2, 1962, 130-132

TEXT: By performing sublimation in hydrogen, layers of ZnO and ZnS are produced which are superior in texture and stability to those prepared in vacuo and also provide a convenient means for the parallel investigation of electrical and luminescent properties In the case of ZnO the following reaction occurs

 $Zn0 + H_2 \longrightarrow H_20 + Zn$

At the temperature of evaporation 650 to 700°C the equilibrium is displaced to the right forming Zn + H20 while at lower temperatures the formation of ZnO and H2 is favoured. sublimations are performed in a conventional bell-jar apparatus and the temperature of the surface to be coated can be varied by means of a heating jacket. The properties of the ZnO layers are: thickness 1 to 15 μ ; its luminescent spectrum covers 400 to

5/120/62/000/002/030/047 The preparation and properties E039/E435 600 mm with a maximum at 510 mm and its decay time is 10^{-6} sec. At room temperature the electrical conductivity is 1 to 5 ohm-1cm-1 At temperatures higher than -50°C the conductivity decreases with increasing temperature. The concentration of current carriers at room temperature is about 1018cm-3. In the case of ZnS prepared in the same way the layer had high structural quality but little or no luminescence. By introducing chlorine into the ZnS by adding HCl to the hydrogen its luminescence can be greatly :15 The optimum conditions are: evaporation temperature 1000°C and layer temperature 550 to 600°C. Layers of thickness l to 10 μ can be produced with a maximum in the luminescent spectrum at 460 mm. The method was developed in NIFI LGU for ZnO (1950) and ZnS (1953). F.D.Klement directed part of the work. 50 There are 2 figures. ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University) SUBMITTED: July 5, 1961 Card 2/2



Effect of manufacturing conditions on the luminescence of zinc oxide. Izv. AN SSSR. Ser. fiz. 25 no.4:461-463 Ap '61. 1. Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvonnogo universiteta imeni A. A. Zhdanova. (Zinc oxide)

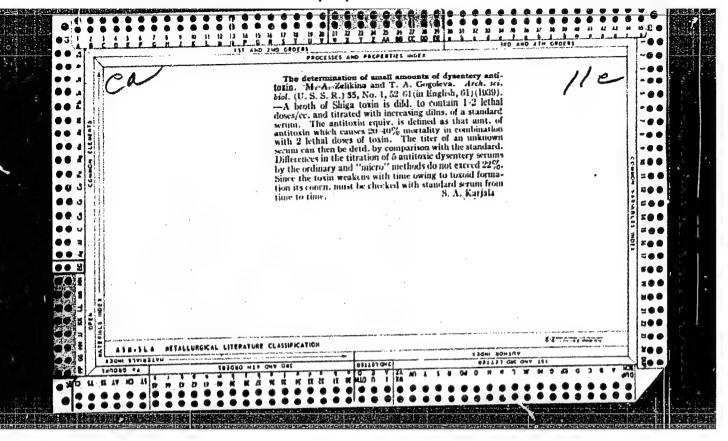
"APPROVED FOR RELEASE: 03/15/2001

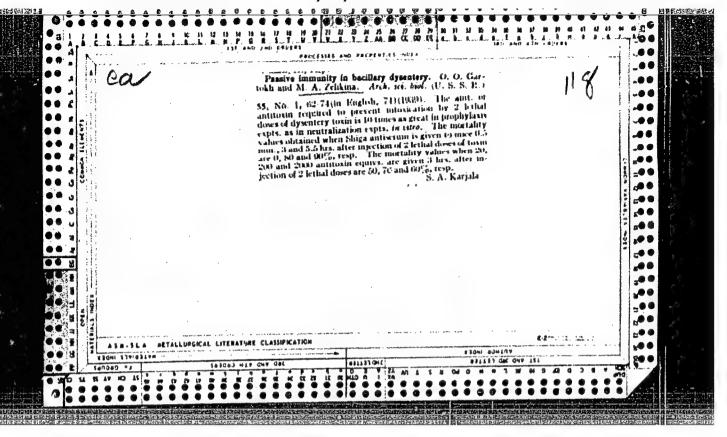
CIA-RDP86-00513R001964310007-0

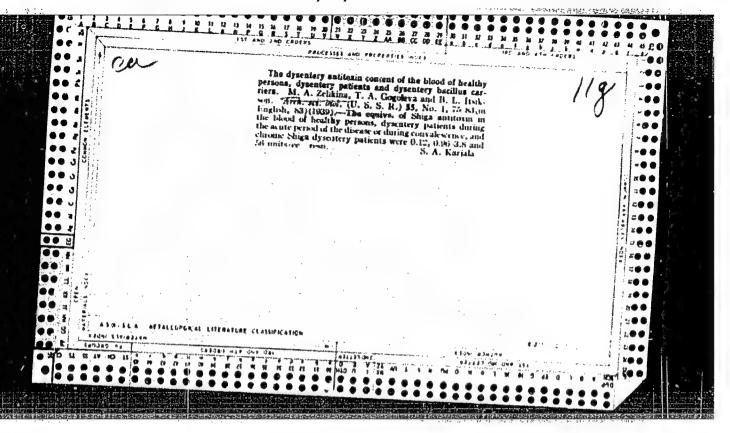
ZELIKIN, Ya.M.; USPENSKAYA, Ye.M.

Luminescence of zinc oxide obtained by thermal decomposition of certain salts. Opt. i spektr. 18 no.5:880-882 Mg 165.

(MIRA 18:10)







= ZELIKINA, A.Z.

USSR / Microbiology - Microbes Pathogenic to Humans

and Animals

Abs Jour: Referat.Zh.Biol., No. 1, 1958, 729

Author : Petrosyan, E.A., Zelikina, A.Z., Kas'yanova, L.K.

: A Chemical Study of Antigen Complex in Sonne Title

Dysentery Bacteria

Orig Pub: Nauchn. tr. Mosk. n.-i. in-ta vaktsin i syvorotok,

1956, 8, 423-441

Abstract: Antigens of Sonne dysentery bacteria obtained

from the microbial mass by extraction with trichloracetic acid or by digesting with pancreatin are very similar in their chemical composition, differing only in that the antigens obtained by the first method contain somewhat less total nitrogen. Both these antigens possess high specific and antigenic properties. The antigenic prepara-

Card 1/3

F-4

USSR / Microbiology - Microbes Pathogenic to Humans and Animals

Abs Jour: Referat. Zh. Biol., No. 1, 1958, 729

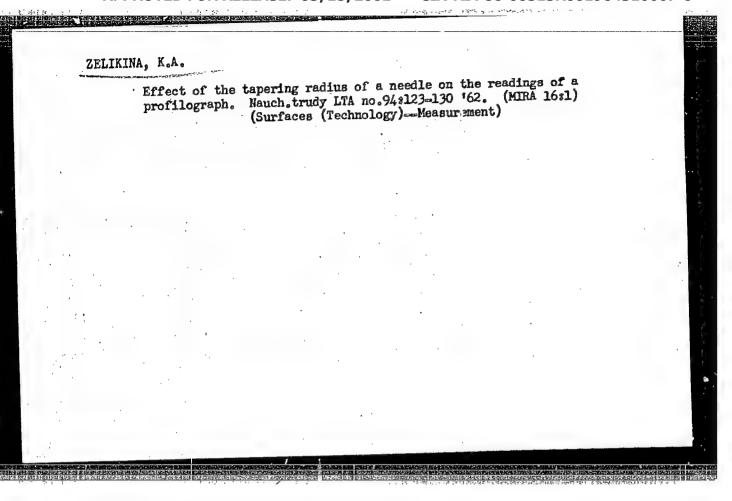
extraction from microorganisms by trichloracetic acid contains less nitrogen and considerably less reducing substances than antigen obtained in S-form from bacteria by the same method. Antigen from R-form is not precipitated by an antiserum, but in an 0.025 g dose creates protection in mice from 1 Dcl of live culture in 83% of cases. Antigenic preparations obtained from Sonne bacteria in an R-form by other methods are close to antigenic preparations from S-form in chemical composition, but are devoid of specificity and immunogenic properties.

Card 3/3

ZELIKINA, G.Ya.; SEMENOV, R.I.

Determination of g-factors of the second excited p-levels in alkaline metals. Opt. i spektr. 18 no.3:539-540 Mr '65.

(MIRA 18:5)



· USSR/Physical Chemistry - Molecules. Chemical Bonds. ZELINSKIY,

B-4

Ref Zhur-Khimiya, No 5, 1957, 14384

V. V. Zelinskiy, N. P. Emets, V. P. Kolobkov, L. G. Abs Jour:

Author Investigation of the capacity of complex organic mole-Inst Title

cules to fluoresce and phosphoresce

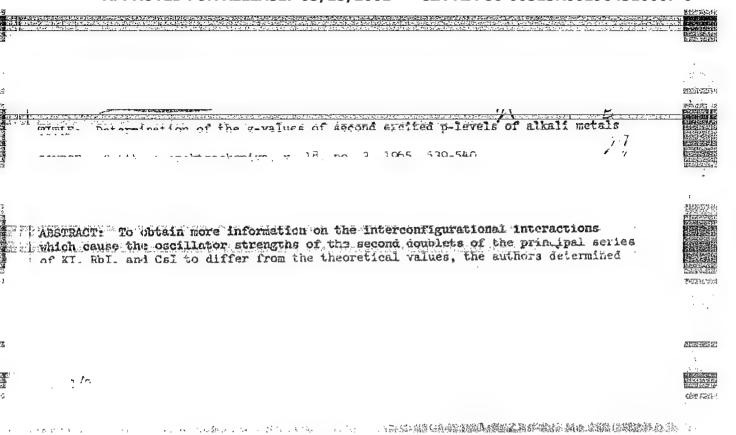
Izv. AN SSSR, ser. fiz, 1956, 20, No 5, 507-513 Orig Pub:

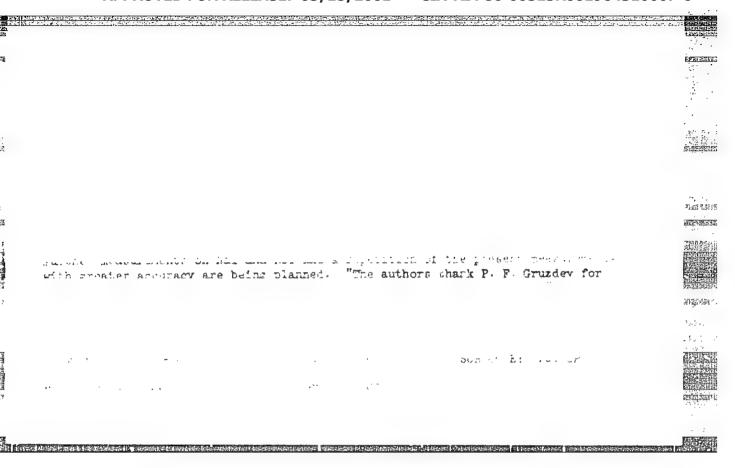
An investigation was made of the dependence of the probability of non-radiating transitions of excited molecules (from the unstable level to the metastable Abstract:

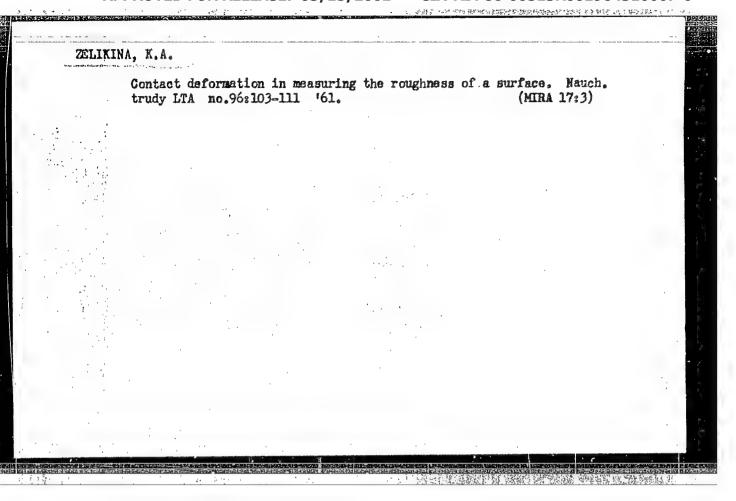
level r, from the unstable to the basic without q radiation, from the metastable to the basic with T radiation, and from metastable to the basic without radiation q2) on the temperature, solvent and molecule structure. Probability of r is apparently only weakly

dependent on temperature. Probability q changes little with temperature for some organic compounds while for

Card 1/2







"APPROVED FOR RELEASE: 03/15/2001

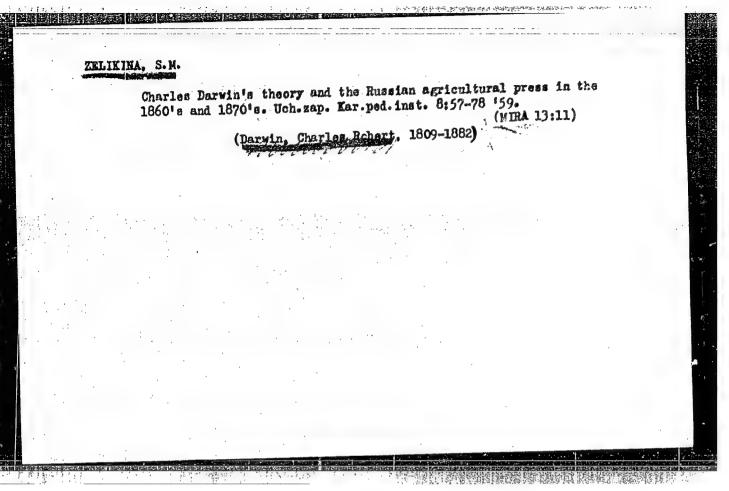
CIA-RDP86-00513R001964310007-0

ZELIKINA, S.M., kand.biologicheskikh nauk

M.V.Rytov's pedagogical views. Uch.zap.Kar.ped.inst. 7:3-15 '58.
(MRA 15:2)
(Rytov, Mikhail Vasil'evich, 1846-1920) (Agriculture—Study and teaching)

"APPROVED FOR RELEASE: 03/15/2001 CIA-

CIA-RDP86-00513R001964310007-0



ZELIKINA, T. I.

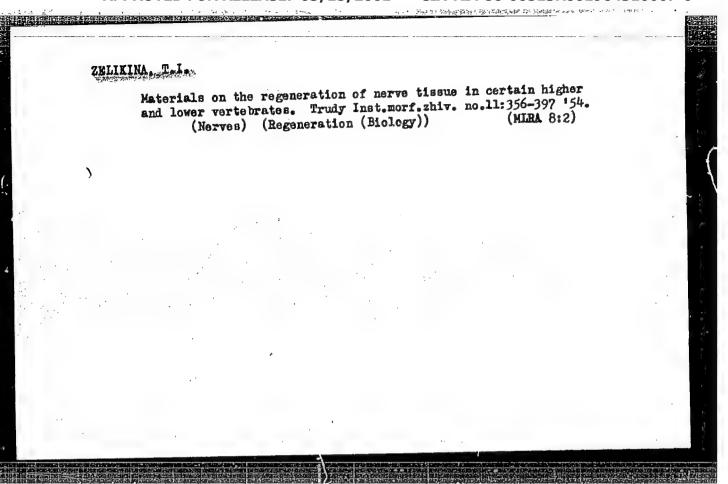
"Changes in Tissue Fiber during the Development Process of Larva of
Calliphora Erythrocephala Mg.," Dok. AN, 65, No. 1, 1949.

Nbr., Inst. Zoology, Moscow Order Lenin State Univ. im. M.V. Lomonosov,
-c1949-.

ZELIKINA, T. I.

"Comparative Analysis of Rejenerative Processes of the Nervous Tissues of Higher and Lower Vertebrates." Cand Biol Sci, Moscow Veterinary Acad, Moscow, 1953. (RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55



SHEYVERKHMAN, B.Ye., otvetstvennyy redaktor [deceased]; POKROVSKIY, N.B., otvetstvennyy redaktor; ZELIKINA, T.I., redaktor izdatel stva; SHEVCHENKO, G.N., tekhnicheskiy redaktor

[Perception of sound signals under various acoustical conditions; proceedings of a scientific conference held April 1954] Vospriiatie svukovykh signalov v rezlichnykh akusticheskikh usloviiakh; trudy nauchnoi konferentsii, sostolavsheisia v aprela 1954 g. Moskva, 1956. 190 p. (MIRA 10:1)

1. Akademiya nauk SSSR. Institut biologicheskoy fiziki. (HEARING)

17 (4, 10)

AUTHORS:

Shabadash, A. L., Zelikina, T. I., SOV/20-128-6-55/63

Agracheva, N. D.

TITLE:

Cytochemical Changes in Nucleoproteins of Nerve Cells in Mammals Observed at Early Stages of Radiation Injuries

PERIODICAL:

Dcklady Akademii nauk SSSR, 1959, Vol 128, Nr 6, pp 1290-1293

(USSR)

ABSTRACT:

The changes in ribonucleoproteins (RNP) in the central nervous system of mammals have caused reactive processes which are not comprehended by the usual pathologic-histological methods (Refs 16-19). The investigation of the physicochemical properties of mitochondria with a simultaneous consideration of their morphology proved to be most promising. Until recently, most investigators had represented the opinion that the nervous system is radioresistant (Refs 23, 26 et al), which has, however, more and more been refuted lately (Refs 1, 2, 6, 8, 9, 21, 24). The authors irradiated once, with a dose of 1000 r, white rats on a 7-plant according to A. V. Bibergal' et al (Ref 3). After 0.5, 1, 2, 3, 3.5, 4, 5, 6 and 24 hours, the rats were totally fixed by an injection into the blood vessel, and treated according to A. L. Shabadash's method (Refs 16-19)

Card 1/4

Cytochemical Changes in Nucleoproteins of Nerve Cells SOV/20-128-6-55/63 in Mammals Observed at Early Stages of Radiation Injuries

for determining the RNP (dyeing with methylene blue at different pH-values). Very acid pH-values of the isoelectric points (IEP) of the mitochondria and of the tigroids in afferent ganglionic neurons, as compared with similar indices of motoneurons of the spinal cord, and of the neurons of the cerebral hemispheres, were characteristic of normal (control-) rats (Table 1). Histochemical changes in the IEP of the RNP in mitochondria, in the tigroid and cytoplasm, showed - after one single total-7-irradiation - sharp disturbances (characteristic of each neuron category) of the physicochemical state of nucleoproteins of the cytoplasm and of the organoids (Table 2). The quantitatively biggest changes were detected in the mitochondria of the afferent cells, followed - in decreasing order by the shifting in the mitochondria of the motoneurons of the 4th, 3rd and 5th; layers of the cerebral cortex, in the tigroid of the motoneurons, and finally in the tigroid of the cells of the cerebral cortex. The most considerable changes in RNP were determined in structures which normally have low IEP. As had been proved before (Refs 16-20), basic dyes are bound by RNP thanks to the free phosphoric acid groups, and their,

Card 2/4

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001964310007-0"

· D. CONTROL OF BUILDING CONTROL OF BANKA CONTROL OF BUILDING CONTROL OF STREET OF STREET OF STREET OF STREET

Cytochemical Changes in Nucleoproteins of Nerve Cells SOV/20-128-6-55/63 in Mammals Observed at Early Stages of Radiation Injuries

quantity bound is proportional to that of these free groups. Therefore, the weaker coloring suggests considerable changes in the composition of the polymeric molecule. The colorable zone is much restricted by the IEP shifting. The duration of this shifting is different for individual organoids and cells, or types of neurons respectively. Characteristic shiftings also occur in the "diffuse" RNP of the cytoplasm. The IEP shiftings are particularly strong in the ganglionic cells. Thus, the method used by the authors made it possible to detect cytochemical changes in the central nervous system owing to total irradiation. As the computation scale of pH is logarithmic and corresponds to very big quantitative changes of acid and alkaline groups in the RNP colloidal salts, the physicochemical modification of RNP in the mitochondria can hardly be overrated. The authors! data are in agreement with the biochemical publication data on the influence of ionizing radiation on nucleoproteins (Refs 5, 7, 11, 13, 22, 25). There are 1 figure, 2 tables, and 26 references, 18 of which are Soviet.

Card 3/4

Cytochemical Changes in Nucleoproteins of Nerve Cells SOV/20-128-6-55/63 in Mammals Observed at Early Stages of Radiation Injuries

ASSOCIATION:

Institut biologicheskoy fiziki Akademii nauk SSSR (Institute

of Biological Physics of the Academy of Sciences, USSR)

PRESENTED:

April 29, 1959, by L. S. Shtern, Academician

SUBMITTED:

April 7, 1959

SHABADASH, A.L.; ZELIKINA, T.I.; AGRACHEVA, N.D.

Cytochemical changes in the mammalian nervous system following local X irradiation; preliminary report. Radiobiologiia 1 no.1: (MIRA 14:7) 42-44 '61.

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (X RAYS—PHYSIOLOGICAL EFFECT) (NERVOUS SYSTEM)

ZARKH, Ye.N.; ZELIKINA, T.I.; SHABADASH, A.L.; SHUNGSKAYA, V.Ye.

Methods of studying certain characteristics of the tigroid in the spiral cochlear ganglion of the inner ear. Biofizika 6 no. 2:233-237 161. (MIRA 14:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (EAR—INNERVATION)

88578

21.6500

S/020/61/136/001/035/037 B016/B052

AJTHORS:

Shabadash, A. L., Zelikina, T. I., and Agracheva, N. D.

TITLE:

Cytochemical Reactions of Ribonucleoproteids of Mitochondria and the Tigroid of Nerve Cells Within the First Minutes

After Exposure to Gamma Rays

PERIODICAL:

Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 1, pp. 222-225

TEXT: The authors continued analyzing the role of the central nervous system in the "radiation reaction" of white rats. In Refs. 1 - 3, they had proved that already 30 minutes after one single exposure to Y-rays, the stimulus threshold of neurons in the central nervous system of mammals is disturbed by considerable histochemical changes. In this paper, the authors attempted to explain the shortest period of time necessary for the occurence of physicochemical disturbances in the neuron structure, which can be registered by their methods. Studies on the isoelectric point (i.e.p.) of ribonucleoproteids (RNP) in the organoids of nerve cells (something that the shortest period of the society processes of damage, showed that fundamental changes are by no means early processes of damage, but very early biological processes similar to the damage of blood-forming

Card 1/3

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964310007-0

Cytochemical Reactions of Ribonucleoproteids of Mitochondria and the Tigroid of Nerve Cells Within the First Minutes After Exposure to Gamma Rays

88578 S/020/61/136/001/035/037 BC16/B052

organs. They are exactly located in concrete structures. The experimental conditions are described in Ref. 2. The radiation intensity was 100 r/min, and the exposure time was 10 min for a dose of 1000 r. The changes of i.e.p. were determined from the intensity of selective sorption of methylene blue as dependent on the pH of the medium. The earliest changes in the nervous cells occur in i.e.p. shifts of the RNP of their mitochondria and tigroid clumps in alkaline direction. Table 1 gives the quantitative changes of i.e.p. in the last-mentioned organoids of various categories of neurons within 1, 5, 10, 12, 17, 30, 40, 50, and 60 min. Hence, the authors found that the largest i.e.p. shifts are characteristic of mitochondria of afferent ganglious cells. A similar shift is also characteristic of the RNP of mitochondria of the fourth layer of the cerebral cortex (parietal region). Only physics-chemical characteristics are considerably disturbed, whereas the morphological ones remain unchanged. Within the first minutes, the above shifts differed in mitochondria and tigroid. Hence, the authors conclude that not the participation of RNP in any structure is decisive for the extent and moment of the shift, but the Card 2/3

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964310007-0

88578

Cytochemical Reactions of Ribonusicoproteids of S/020/61/136/001/035/037 Mitochondria and the Tigroid of Nerve Cells B016/B072 Within the First Minutes After Exposure to Gamma Rays

是自己的主义,这个人,他们也是一个人的人,他们也是一个人的人,他们也是一个人的人,他们也不是一个人的人,他们也不是一个人的一个人,他们也是一个人的人,他们也不会

total characteristics of the symplex concerned. In differ in mito-chondria and tigroid. The i.e.p. characteristic of a structure in normal state, however, may be used as sensitivity index for ionizing radiation. The dynamic specialization of large sections of the central nervous system characterizes the original cytoonemical properties of nerve cells. Hence, cytochemical indices may serve as standard characteristics for a classification into concrete neutron canagories. In the authors' view, the i.e.p. shift in alkaline direction is a protective mechanism. There are 1 figure, 1 table, and 13 references: 11 Soviet and 1 French.

ASSOCIATION: Institut biologicheskov fiziki Akademii nauk SSSR (Institute

of Biophysics, Academy of Sciences USSR)

PRESENTED: July 25, 1960, by L. S. Shtern, Academician

SUBMITTED: July 19, 1960

Card 3/3

SHABADASH, A. to; AGRACHEVA, N.D.; ZELIKINA, T.T.

leriodicity of cytochemical changes in the ribonucleoproteins in the cells of the central nervous system in the latent period and in the initial stage of the clinical appearance of radiation injury. Fadiobiclogida 2 no.1:105-114 Ja 162 (MIRA 18:1)

SHABADASH, A.L.; ZELIKINA, T.I.; AGRACHEVA, N.D.

Cytochemical indications of inhibited states of cells of the central nervous system in mammals. Dokl.AN SSSR 145 no.3:657-

660 Jl '62. (MIRA 15:7)

1. Institut biologicheskoy fiziki AN SSSR. Predstavleno skademikom I.S.Beritashvili. (MITOCHONDRIA) (INHIBITION)

SHABADASH, A.L. (Moskva, G-151, pr. Kutuzova, 24, kv.114); ZELIKINA, T.I. (Moskva, Butyrekaya ul., 84, kv.1; AGRACHEVA, N.D. (Moskva 2, Truzhenikov per., 4, kv.18)

Cytology and cytochemistry of ribonucleoproteins in mitochendria and tigroid of the cells of the central nervous system during the latent period of radiation sickness.

Arkh. anat., gist. i embr. 44 no.2:3-9 f '63. (MIRA 17:2)

1. Institut biologicheskoy fiziki AN SSSR (Moskva).

SHABADASH, A. L.; ZELIKINA, T. I.; AGRACHEVA, N. D.

Cytochemical characteristics of ribonucleoproteids and the deoxyribomeclaoproteid! complex in the nucleolus of nerve cells. Doll. AN SSSK 155 no. 2:445-447 Mr '64. (MIRA 17:5)

1. Institut biologicheskoy fiziki AN SSSR. Predstavleno akademikom A. N. Belozerskim.

